Week 22

STUDENT REFERENCE POINT (SRP)
LANDING DIAGRAM

1. Student Reference Points

a. The landing diagram graphically illustrates the overall plan for the surface ship-to-shore movement of the scheduled and on-call waves of a battalion landing team (BLT). It provides information as to the tactical deployment of units for a beach assault. The landing diagram is prepared by the BLT commander and is incorporated into the assault schedule of a higher headquarters. For an independent BLT, this diagram should include scheduled waves, on-call waves, free boats, and any floating dumps.

(1) Initial formulation of the landing diagram is a logical starting point when preparing landing plan documents. The landing diagram is based on the concept of operations ashore, which, in turn, is based on the elements of METT-TSL. With this fact in mind, the BLT S-3 first determines the composition of the scheduled waves. Recalling that scheduled waves are elements of the landing force for which the time, place, and formation for landing have been determined and that scheduled waves will be the first employment of landing craft and amphibious vehicles, the BLT S-3 considers several important factors in order to determine scheduled waves:

(a) The amount of combat power to be deployed ashore initially will help determine the number of scheduled waves. The BLT S-3 must envision how many elements, and in what order, are needed ashore immediately in order to carry out the concept of operations ashore. Remember, what is needed in the initial assault are units that can gain and maintain a foothold and rapidly transition from zero combat power ashore to an effective fighting force.

(b) The type of combat power needed ashore is a factor in determining the composition of the scheduled waves. For example, if the landing force expects to meet heavy enemy mechanized forces in close proximity to the landing beaches, then the scheduled waves should include the maximum number of tanks, TOWs, and Javelins that can be landed.

(c) The availability, location, and type of landing assets are especially important considerations when determining the number and composition of scheduled waves. Recall that scheduled waves land according to a precise time schedule; scheduled waves cannot include elements that land in "turnaround" boating and for which a definite landing time cannot be determined.

(d) Beach length is also a consideration when determining how many scheduled waves are planned. Generally, landing craft and amphibious vehicles should have 50 meters separation in good visibility. Therefore, an excessively narrow beach may call for more waves than normally would be required. For example, if the initial element ashore in an assault is to be a reinforced rifle company embarked in ten assault amphibians, an excessively narrow beach would require two waves of five vehicles each instead of one wave of ten. Depending on the situation, the difference may have an impact on the company commander's planning.

Usually, the first wave or waves will consist of assault amphibians because of their ability to crawl over sandbars and flat gradients and to move rapidly inland. Because of differences in speed and handling characteristics, amphibious vehicles and landing craft are never mixed in a wave.

(2) On-call waves consist of elements whose need ashore is anticipated but whose time and place of landing cannot be accurately determined. When determining the composition of on-call waves, the S-3 must anticipate what combat power he wants ashore relatively early. Ideally, on-call waves are boated prior to H-hour and circle in a designated area awaiting dispatch ashore. However, in light of today's boat availability, we rarely have sufficient assets to boat all scheduled and on-call waves simultaneously. Even though we use turnaround boating for on-call waves, care must be taken to ensure on-call waves are kept to a minimum, as they are given the second highest landing priority after scheduled waves. This means that certain tactical priorities and trade-offs may have to be made, depending on the anticipated situation ashore. For example, one situation may require artillery to be boated as on-call waves, whereas another situation may require anti-mechanized assets to be landed. Don't forget to anticipate the early need ashore of beachmaster and engineering equipment to help maintain trafficability of the beach, coordinate beach traffic, and land craft that cannot retract from the beach.

(3) The use of free boats to enhance command and control must be weighed against the availability of landing craft and amphibious assault vehicles (AAVs). The reason is simple: landing craft and AAVs committed to this purpose are not available except on a second trip for troop lift.

(4) After formulating the landing diagram, the S-3 coordinates with the BLT commander, company commanders, and subordinate element commanders to allocate landing means as well as wave assignments. In turn, company commanders and subordinate element commanders formulate their own schemes of maneuver ashore, based on their mission and task organization, and complete the LCAVAT for their waves or assigned boating. Conflicts or problems may then be surfaced to the S-3.

(5) The S-3 must closely coordinate his landing diagram with the Navy in order to ensure that the Navy can support his concept for landing scheduled and on-call waves, especially in situations where lengthy or detailed landing craft movement is required prior to H-hour.

(6) Preparation

(a) Waves are numbered from front to rear.

(b) The time of landing in terms of H-hour is indicated. For rough planning purposes, AAV waves are normally separated by three minutes, and boat waves require five to ten minutes of separation.

(c) Each landing craft/AAV is assigned a two-digit number. The first digit is the wave and the second digit is the position in the wave. For example, vehicle 2-3 is the third vehicle in the second wave.

(d) Landing craft are numbered from the center to the flanks of the wave, with even numbers on the left and odd numbers on the right.

(e) AAVs are numbered from left to right in each wave.

(f) The wave commander's craft/AAV is annotated by an asterisk.

(g) Serial numbers are inserted upon completion of the serial assignment table.

b. Rationale for BLT 1/2 landing diagram

Waves 1 and 2

Wave 1 H-hour	Elems,Company A (Rein),				Elems 1st Plat, Company A, CEB							Serial
	XL	X	XL	X	X*	X	X	X	X	X	X	
	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	
Wave 2 H+3 min	Elems, Company A (Rein),				Elems 1st Plat, Company A, CEB							Serial
	XL	X	XL	X	X*	X	X	X	X	X	X	
	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10	2-11	

(1) For the H-hour landings on Black Beach 1, the S-3 planned for Company A to land in the first and second waves as it had the engineers with line charges in case the beach initially needed to be cleared of mines. The 500 meters allocated to BLT 1/2 could accommodate the AAVs online. Therefore, the first and second waves consist of the 22 AAVs assigned to Company A.

Waves 3 and 4

Wave 3 H+6 min	Elems, Company B (Rein), BLT 1/2											Serial
	X	X	(X)	X	X*	X	X	X	X	Xr	X	
	3-1	3-2	3-3	3-4	3-5	3-6	3-7	3-8	3-9	3-10	3-11	
Wave 4 H+9 min	Elems, Company B (Rein), Elems, BLT 1/2											Serial
	X	X	(X)	X	X*	X	X	X	X			
	4-1	4-2	4-3	4-3	4-5	4-6	4-7	4-8	4-9	4-10	4-11	

(2) The third and fourth waves consist of Company B and the BLT Command Group coming off the *U.S.S. Ponce* (LPD-15). Even though Company B's first platoon is assigned to Company A, 2d Tank Battalion, it still lands with Company B as a scheduled wave and links up on the beach or designated area. This meets the commander's guidance by having all the AAVs across the beach by an underway launch.

Waves 5 and 6

Wave 5	Company A(-) (Rein), 2d Tank Bn				Serial
H+12	(0)	(0)	(0)*	(0)	
min	5-4	5-2	5-1	5-3	
Wave 6	Det, Company A (Rein), 2d Tank Bn, Det BMU-1				Serial
H+17	(0)	(0)	(0)*	(0)	
min	6-4	6-2	6-1	6-3	

(3) When the RLT S-3 gave the preponderance of landing craft, utility (LCUs) to BLT 1/2, it allowed BLT 1/2 to preboat all of the tank company and get it ashore on the fifth and sixth waves. By the end of wave 6, the BLT commander will have all of its maneuver elements ashore. An additional LCU was pre-boated with BMU's heavy equipment to be used for recovering beached or disabled landing craft.

Wave 7

Wave 7	Adv Party, Btry A, Shore Party Team A		Serial
H+22	L	L*	
min	7-2	7-1	

(4) The seventh consists of two LCACs, which will bring in all of (Arty) Advance Party, Btry A, and a detachment from LFSP. The LCAC was allocated to the shore party team so that the shore party could land its heavy equipment in order to ensure trafficibility of the beach. This LCAC will be pre-boated. The S-3 planned seven scheduled waves. Upon landing the seventh wave, BLT 1/2 will have all major BLT combat power ashore. The decision to bring in all the BLT tanks means that eight of fifteen LCUs will be used.

On-Call/Free Boats/Floating Dumps

On Call Rpt to PCS	Btry A, 1/10 (0) (0) (0)			Serial
Free Boats	-X-	00-1 Beachmaster		Serial
	-X-	00-2 Beachmaster		

(6) Because the tank company had substantial inherent anti-armor capability, the S-3 decided to land the tank company's TOWs in nonscheduled waves. He began formulating his on-call waves. The S-3 then considered the use of the remaining LCUs and LCACs. He decided to pre-boat the artillery battery in order to have it ready to come ashore as soon as it was feasible.

2. The landing diagram prepared by the BLT S-3 is be submitted to the RLT S-3, who will use the landing diagrams of BLT 1/2 and 2d Tank Battalion (-) (Rein) as the basis for the RLT assault schedule. In preparing the assault schedule, the RLT S-3 *may* desire to adjust some of the battalion's scheduled or on-call waves to conform to particular concerns or desires of the RLT. In this case, the RLT S-3 and BLT S-3 must remain in close coordination to ascertain the final composition of the scheduled and on-call waves.

3. Determination of landing means for Eastern Crescent is based on an RLT landing in which some latitude exists in the use of boats available to the RLT as a whole. However, for a BLT operating independently, or for the ground combat element (GCE) for a MEU, there is no opportunity to request, or to be allocated, boats other than those embarked with the BLT or MEU. Depending on the ship mix, few boats may be available. The BLT S-3 must make hard decisions as to the best use of scarce landing means when he develops his scheduled and on-call waves.

4. It is important to note that the BLT S-3 has decided not to have the AAVC-7 and AAVP-7 (command track and chase vehicle) as free boats. By definition, a free boat lands on the beach at the desire of the landing force. In reality, the common method is to land the AAVC-7 and AAVP-7 chase vehicles with the scheduled waves, move them out of the way to a linkup point, and wait for the command group to arrive by helicopter to complete the linkup. This process ensures the vehicles are ashore and ready when the command group desires to go ashore.

5. The completed landing diagram is provided below:

CLASSIFICATION

Copy no. ___ of ___ copies
BLT 1/2
CAMP LEJEUNE, NC
XX1230Z DEC 20XX
LKO-7

Enclosure 1, (Landing Diagram) to Tab A (Landing Plan) to Appendix 14 (Amphibious Operations) to OpOrd 2-XX (Eastern Crescent)

Landing Diagram

H-HOUR	0530				BEACH	Black 1						
Wave 1 H-hour	Elems, Company A (Rein),				Elems 1st Plat, Company A, CEB							Serial
	X^L	X	X^L	X	X*	X	X	X	X	X	X	
	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	
Wave 2 H+3 min	Elems, Company A (Rein),				Elems 1st Plat, Company A, CEB							Serial
	X^L	X	X^L	X	X*	X	X	X	X	X	X	
	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10	2-11	
Wave 3 H+6 min	Elems, Company B (Rein), BLT 1/2											Serial
	X	X	(X)	X	X*	X	X	X	X	X^r		
	3-1	3-2	3-3	3-4	3-5	3-6	3-7	3-8	3-9	3-10		
Wave 4 H+9 min	Elems, Company B (Rein), Elems, BLT 1/2											Serial
	X	X	(X)	X	X*	X	X	X	X			
	4-1	4-2	4-3	4-3	4-5	4-6	4-7	4-8	4-9			
Wave 5 H+12 min	Company A(-) (Rein), 2d Tank Bn											Serial
	(0)	(0)	(0)*	(0)								
	5-4	5-2	5-1	5-3								
LEGEND	X	AAVP-7			(X)	AAVC-7			-X-	LARC-5		
	X^L	AAVP-7 w/MK154			(O)	LCU			L	LCAC		
	*	WAVE CMDR			X^r	AAVR-7						
H-HOUR	0530				BEACH	Black 1						
Wave 6 H+17 min	Det, Company A (Rein), 2d Tank Bn, Det BMU-1											Serial
	(0)	(0)	(0)*	(0)								
	6-4	6-2	6-1	6-3								
Wave 7 H+22 min	Adv Party, Btry A, Shore Party Team A											Serial
	L	L*										
	7-2	7-1										
On Call Rpt to PCS	Btry A, 1/10, Shore Party Team A											Serial
	(0)	(0)	(0)									
Free Boats	-X-			00-1 Beachmaster								Serial
	-X-			00-2 Beachmaster								